

Cal/Ecotox

Toxicity Data for California Sea Lion (*Zalophus californianus*)*

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| Chemical | Tox Exposure | Endpoint Type | Endpoint Description | Endpoint Value | Note | Reference |
|--|--|--|---|--|------|-----------|
| BROMINE COMPOUNDS; CADMIUM COMPOUNDS; COPPER COMPOUNDS; IRON COMPOUNDS; MANGANESE COMPOUNDS; MERCURY COMPOUNDS; SELENIUM COMPOUNDS; SILVER COMPOUNDS; ZINC COMPOUNDS | see citation for table of residue data for 13 metals in pre-term vs full-term mothers and pups | TOX-REPRO - physiology | incidence of premature parturition correlated with different metal concentrations and ratios | increase | a | 1 |
| CADMUM COMPOUNDS; CHROMIUM COMPOUNDS; COPPER COMPOUNDS; LEAD COMPOUNDS; SELENIUM COMPOUNDS; ZINC COMPOUNDS | range of metal residue levels in brain, liver, heart, muscle and fat (ppm dry wt); Cd, 0.18 - 3.03; Cr, 1.24-2.39; Cu 1.86 - 87.74; Pb, 77.21-110.90; Se 222-255; Zn 4.89-240.28 | TOX-Non-Repro-Sublethal - whole animal | incidence of epileptiform seizures and subsequent death associated with "unusual" Se levels | increase | b | 2 |
| CADMUM COMPOUNDS; DDT (Technical Grade Mixture); MERCURY COMPOUNDS; POLYCHLORINATED BIPHENYLS | residues significantly different between groups (ppm, wet wt): "Sick"; Hg 127.5 - 170.1(liver), Cd 0.17 (cerebellum), DDE 23.9 (liver), PCBs 2.79 (liver); "Healthy"; Hg 74.1 - 95.7 (liver), Cd 0.042 (| TOX-Non-Repro-Sublethal - cellular/biochemical effects | incidence of kidney histopathological lesions in "sick" or dead animals compared to "healthy" animals, consistent with diagnosis of leptospirosis | increase | c | 3 |
| DDE (4,4'); POLYCHLORINATED BIPHENYLS | Premature parturient group (ppm wet wt): p,p'-DDE 350-939 (blubber), PCBs 33.0-92.4 (blubber); p,p'-DDE 8.54-30.4 (liver), PCBs 0.63-6.08 (liver); Full term parturient group (ppm wt wt): p,p'-DDE 16.3 | TOX-REPRO - physiology | incidence of premature parturition associated with elevated DDT and PCB levels, compared to full term parturient group | increase | d | 4 |
| DDT (Technical Grade Mixture); POLYCHLORINATED BIPHENYLS | Premature parturient group (ppm wet wt): DDT 824.4 (blubber), PCBs 112.4 (blubber), DDT 25.24 (liver), PCBs 5.74 (liver); Full term parturient group (ppm wt wt): DDT 103.2 (blubber), PCBs 17.1 (blubb | TOX-REPRO - physiology | incidence of premature parturition associated with elevated DDT and PCB residues, compared to full term parturient group | increase | e | 5 |
| SELENIUM COMPOUNDS | fish diet Se concn. range; 0.70 - 1.06 ug/g wet wt | TOX-EXP IND - accumulation | selenium concentration range in liver and kidney of dead animals | 36.11 - 88.4 ug/g wet wt (liver); 7.12 - 32.8 ug/g wet wt (kidney) | f | 6 |

Notes

- a Both Adult and Juv.; CA; B; Species - California (R)=*Zalophus californianus*; TOX - Chemical=BROMINE COMPOUNDS; TOX - Chemical=CADMUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=IRON COMPOUNDS; TOX - Chemical=MANGANESE COMPOUNDS; TOX - Chemical=MERCURY COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; TOX - Chemical=SILVER COMPOUNDS; TOX - Chemical=ZINC COMPOUNDS; N=10/group; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=Y
- b Adult; Lab; F; Species - California (R)=*Zalophus californianus*; TOX - Chemical=CADMUM COMPOUNDS; TOX - Chemical=CHROMIUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=LEAD COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; TOX - Chemical=ZINC COMPOUNDS; N=1; Age=18 yr; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Stat Sig=N
- c Adult; OR; M; Species - California (R)=*Zalophus californianus*; TOX - Chemical=CADMUM COMPOUNDS; TOX - Chemical=DDT (Technical Grade Mixture); TOX - Chemical=MERCURY COMPOUNDS; TOX - Chemical=1336-36-3; N=2-8/group; Age=5 - 9 yr; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=Y; authors note it is not possible to relate significant differences in residue concentrations to onset of leptospirosis; see citation for tables of other tissue residue levels that were not significantly different between groups
- d Adult; CA; F; Species - California (R)=*Zalophus californianus*; TOX - Chemical=72-55-9; TOX - Chemical=1336-36-3; N=10/group; Age=6 - 14 yrs; San Miguel Island; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR; relationship between leptospirosis and contaminants as cause of premature births suggested by authors
- e Adult; CA; F; Species - California (R)=*Zalophus californianus*; TOX - Chemical=DDT (Technical Grade Mixture); TOX - Chemical=1336-36-3; N=4-6/group; Age=6 - 15 yrs; San Miguel Island; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=N
- f NR; Lab; NR; Species - California (R)=*Zalophus californianus*; TOX - Chemical=SELENIUM COMPOUNDS; N=3; Tox Exp Tech=diet; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR; see citation for other metal residue levels; authors suggest Se levels may have produced toxicoses

References

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Species: *Zalophus californianus*

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